

REMARKS

Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

Claim 15 is currently being amended.

This amendment adds, changes and/or deletes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier.

After amending the claims as set forth above, claims 9-20 and 22-33 remain pending in this application.

Discussion of Rejections under 35 U.S.C. § 103:

Claims 9-19, 23-24 and 26-33 were again rejected by the Examiner under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent Publication No. 2003/0156640 to Sullivan in view of U.S. Patent No. 5,680,483 to Tranchard. Applicant respectfully traverses this rejection for at least the following reasons.

As a preliminary matter, Applicant respectfully notes that the Examiner appears to have not considered the amendments to claim 15 presented in Applicant's response filed on April 28, 2010. Specifically, in the pending Office Action, the Examiner notes claim 15 as reciting "the first indication indicating whether or not at least a part of at least one picture is encoded with reference to a picture preceding the intra coded picture in encoding order, the at least one picture having an encoding order succeeding the intra coded picture; and performing prediction by the video encoder for a second picture with reference to the at least one picture." Claim 15 was amended to recite:

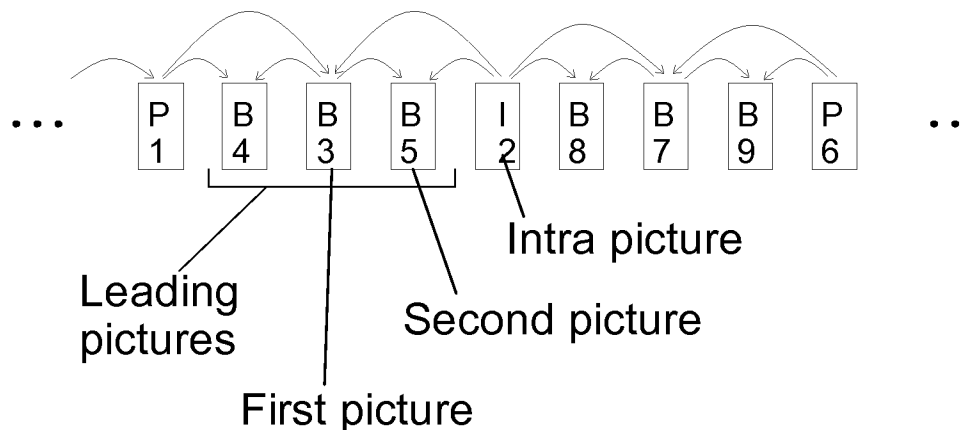
15. (Previously presented) A method of encoding a video sequence, comprising:
encoding, into an encoded bitstream by a video encoder, a first indication corresponding to an intra coded picture, the first indication indicating whether or not at least a part of at least a first picture is encoded with reference to a picture preceding the intra

coded picture in encoding order, said first picture having an encoding order succeeding the intra coded picture; and performing motion compensated prediction by the video encoder for a second picture with reference to said first picture.

This amendment further clarified the differences between Sullivan and embodiments of the present invention. Specifically, in accordance with claim 15, a first indication indicating if a first picture (or at least a part of it) is encoded with reference to a picture which precedes the intra coded picture in encoding order and if the same first picture has an encoding order which is later than the encoding order of the intra picture.

Further, Applicants have amended claim 15 to still more clearly differentiate from Sullivan. Specifically, claim 15 now recites “said first picture having a display order prior to the intra-coded picture” Support for this feature may be found in the originally filed specification and drawings.

The various features of claim 15 may be understood by way of the following example:



In the illustrated example, the pictures are depicted in display order. The numbers in the boxes indicate the encoding/decoding order of the pictures, the letters indicate the type of the pictures (Intra, Predicted, Bidirectionally predicted), and the arrows indicate the prediction reference relationships. With respect to claim 15, picture B3 may represent the “first picture” recited in the claim.

In the example, it is noted that P1 precedes the intra picture I2 in encoding/decoding order. P1 is used as a reference picture for B3, which precedes I2 in display order, but succeeds I2 in encoding/decoding order. Picture B5 is predicted from the first picture (B3) and may correspond to the second picture recited in claim 15.

Thus, claim 15 recites a picture which:

- 1) precedes the intra picture in display order,
- 2) succeeds the intra picture in encoding/decoding order,
- 3) is predicted from another picture preceding the intra picture in encoding/decoding order, and
- 4) is used as a reference to a second picture for motion compensation.

Sullivan fails to teach or suggest any such picture. Applicant respectfully directs the Examiner's attention to Applicant's arguments presented in the response filed April 28, 2010. Applicant respectfully requests that the Examiner reconsider those arguments in light of the amendments to claim 15 in the present response, as well as the amendment to claim 15 in the response filed on April 28, 2010.

Further, Applicant respectfully notes that Sullivan fails to teach or suggest a picture which precedes the intra picture in display order, succeeds the intra picture in decoding order and is used as a reference to another picture. For example, pictures B7 and B8 illustrated in Figure 1 of Sullivan, while preceding an I picture in display order and succeeding the I picture in decoding order, is not used as a reference for other pictures.

Thus, Sullivan fails to teach or suggest the above-noted features of the pending claims. Further, Tranchard fails to cure the above-noted deficiencies of Sullivan.

For at least the above-noted reasons, claim 15 is patentable. Independent claims 9, 26 and 32 recite features that are similar to those discussed above in connection with claim 15. Accordingly, claims 9, 26 and 32 are patentable for similar reasons as claim 15.

As to claims 10-19, 23-24, 27-31 and 33, these claims each depend, either directly or indirectly, from one of allowable claims 9, 15, 26 or 32 and are, therefore, patentable for at

least that reason, as well as for other patentable features when these claims are considered as a whole.

Discussion of Rejections under 35 U.S.C. § 102:

Claims 20, 22 and 25 stand rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Sullivan. Applicant respectfully traverses this rejection for at least the following reason.

The Examiner cites Sullivan as allegedly disclosing “decoding from the encoded bitstream a second indication corresponding to a first coded picture, the second indication indicating whether or not the first coded picture can be correctly decoded when decoding is started from the intra-coded picture.” Applicant respectfully disagrees with the Examiner’s interpretation of the disclosure of Sullivan as applied to the pending claims.

Paragraph [0083] of Sullivan discloses:

“Step 706 determines whether a picture or picture region is unknown. A picture or a region can be unknown if it references another picture or picture region that the decoder does not have. If the picture or region is unknown, step 708 initializes the missing picture that is referenced or the picture or region to be decoded to a pre-determined value and branches to step 712 to continue the decoding process from that point forward. ”

The cited portion of Sullivan fails to provide any teaching or suggestion of a decoded indication which indicates whether or not the first coded picture can be correctly decoded when decoding is started from the intra-coded picture. Sullivan’s disclosure of referencing another picture is not an indication, as recited in the pending claims. For example, if the decoder happened to have the referred picture, then the decoder would be able to decode the current picture. Hence, the value of the reference to another picture could not directly and unambiguously reveal whether the current picture can be decoded or not.

Further, paragraph [0077] of Sullivan discloses that when a decoder is configured to perform best efforts decoding, it will attempt to decode all of the pictures and picture regions that it sees. By contrast, claim 20 recites discarding the first coded picture without decoding.

In the assured decoding described in paragraph [0080] of Sullivan, the decoder decodes only the pictures that it knows it can decode. For example, if the decoder sees an I-picture, it decodes the I-picture because it knows it can. On the other hand, if the decoder sees a P-picture, the decoder does not necessarily know that it can decode the P-picture. So, it will not attempt to do so.

Thus, using the sequence of Figure 5 of Sullivan as an example, the decoder may start at entry point 504 and only decode I-pictures until the conditions in the random access point are fulfilled. At the point at which the conditions are fulfilled, the decoder may then attempt to decode the non-I-pictures with assurances that the remaining pictures contain no references to unavailable data. The fulfilling conditions in the random access point does not teach or suggest “decoding from the encoded bitstream a second indication corresponding to a first coded picture, the second indication indicating whether or not the first coded picture can be correctly decoded when decoding is started from the intra-coded picture.,” as recited in the pending claims.

Therefore, Sullivan fails to teach or suggest at least the above-noted feature of the pending claims and fails to anticipate the claims. Therefore, claims 20, 22 and 25 are patentable.

Conclusion:

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 50-5302. Should no proper payment be enclosed herewith, as by the credit card payment instructions in EFS-Web being incorrect or absent, resulting in a rejected

or incorrect credit card transaction, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 50-5302. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 50-5302.

Respectfully submitted,

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